

The use of liquid immersed ...

S/139/62/000/003/003/021
E194/E435

15 kV sphere gap the time for oil was 4.2 nsec and for air 7.5 nsec. It was thought that contamination of the oil in service, by reducing the electric strength, might increase the switching time. However, this was not so and it was found that under impulse conditions both moist oil and distilled water, being of higher electric strength than of pure oil, gave shorter switching times. There are 2 figures and 1 table. ✓

ASSOCIATION: Tomskiy politekhnicheskii institut imeni S.M.Kirova
(Tomsk Polytechnical Institute imeni S.M.Kirov)

SUBMITTED: March 10, 1961

Card 2/2

24.7800

39544
S/024/62/000/004/001/007
E194/E455

AUTHORS: Vorob'yev, A.A., ~~Vorob'yev, G.A.~~, Kostygin, V.A. (Tomsk)

TITLE: The mechanism of electric breakdown of thin layers of solid dielectric

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye tekhnicheskikh nauk. Energetika i avtomatika, no.4, 1962, 66-68.

TEXT: The breakdown of thin (10^{-3} cm and less) specimens of salt has been explained by the electron avalanche theory due to F. Seitz (Phys. Rev., v.76, 1949, 1376) and by what is here termed the multiple avalanche streamer mechanism. In the avalanche streamer method of discharge with thicknesses greater than 10^{-3} cm, the positive space charge remaining at the anodes due to an avalanche is sufficient to form a streamer. When the thickness is less than 10^{-3} cm, the space charge of the anode necessary to originate a streamer accumulates by attraction to the anode area of several electron avalanches. According to the Seitz mechanism, the discharge time should depend on the area of Card 1/2

The mechanism of electric ...

S/024/62/000/004/001/007
E194/E455

the cathode and according to the proposed mechanism it should be practically independent. Accordingly, rock salt specimens 10 microns thick were prepared in two forms, having cross sections of 0.45 mm and 1.2 mm. Probability plots of breakdown time show that these are respectively 5.5 and 5 microseconds, the difference being within the limits of experimental error. This result supports the hypothesis of multi-avalanche streamer breakdown mechanism. There are 3 figures. 4

SUBMITTED: March 15, 1962

Card 2/2

VOROB'YEV, A.A.; VOROB'YEV, G.A.; MURASHKO, L.T.

Breakdown voltage of solid dielectrics as dependent on
thickness in the range of low thickness values. Izv. vys.
ucheb. zav.; fiz. no.5:174 '62. (MIRA 15:12)

1. Nauchno-issledovatel'skiy institut pri Tomskom
politekhicheskom institute imeni Kirova.
(Breakdown, Electric)
(Dielectrics)

S/181/62/004/003/038/045
B108/B104

AUTHORS: Vorob'yev, G. A., and Kostrygin, V. A.

TITLE: Effect of irradiation on the electrical stability of rock salt to spark-over in a thin layer

PERIODICAL: Fizika tverdogo tela, v. 4, no. 3, 1962, 811-812

TEXT: In order to establish if the spark-over in thin rock salt layers is due to the accumulation of positive space charge at the anode the authors made experiments with ultraviolet light. Irradiation should liberate photoelectrons and electrons from microdefects. The experiments showed, however, that in uncolored crystals electrons were released mainly by cold emission from the cathode. There are 2 figures and 2 Soviet references. ✓

ASSOCIATION: Tomskiy politekhnicheskii institut im. S. M. Kirova (Tomsk Polytechnic Institute imeni S. M. Kirov)

SUBMITTED: December 1, 1961

Card 1/1

24.7700

37946
S/181/62/004/005/044/055
B139/B102

AUTHOR: Vorob'yev, G. A.

TITLE:

Physical nature of the delay time of discharge in solid dielectrics

PERIODICAL: Fizika tverdogo tela, v. 4, no. 5, 1962, 1363-1364

TEXT: It is usual to subdivide the discharge period for solid dielectrics into the statistical delay time t_{st} and the discharge shaping time t_f .

The author has shown in a previous paper (Izv. AN SSSR. OTN, Energetika i avtomatika, 2, 1961) that electric breakdown of solid dielectrics is initiated by impact ionization and that in the case of dielectrics more than 10^{-3} cm thick it agrees with gaseous discharge mechanics. Attempts to determine t_{vz} in NaCl and KBr crystals have shown that t_{st} does not exceed 1×10^{-9} sec and is shorter than the discharge shaping time t_f .

The wide scattering of t_{vz} in a solid dielectric is explained by the fact that the conditions for discharge shaping, to which any specimen of the

Card 1/2

Physical nature of ...

S/181/62/004/005/044/055
B139/B102

same dielectric is subject, vary by reason of differences in structure, static breakdown voltage, and other fluctuations. Most electrons in a solid dielectric, exposed to a strong electric field, are the result of cold emission from the cathode. Also microdefects of solid structure may be electron sources. For this reason low values of t_{st} are also characteristic of other solid dielectrics of high electric strength. Hence there are no grounds for the above-mentioned formal subdivision of t_{st} into its two components.

ASSOCIATION: Tomskiy politekhnicheskii institut im. S. M. Kirova
(Tomsk Polytechnic Institute imeni S.M. Kirov)

SUBMITTED: January 22, 1962

Card 2/2

S/181/62/004/007/032/037
B178/B104

AUTHORS: Vorob'yev, A. A., Vorob'yev, G. A., and Murashko, L. T.

TITLE: Anisotropy in the electric strength of rock salt

PERIODICAL: Fizika tverdogo tela, v. 4, no. 7, 1962, 1967-1968

TEXT: The direction [110] along the chain of positive ions in the crystal lattice of the NaCl type is the favored direction of electron acceleration. As the interionic distance in the direction [111] is larger than in the direction [100], preference is given to the former. A. Hippel (Phys. Rev., 57, 156, 1940) got the following ratio for the electric strength in the directions [100], [110], and [111]: $E_{100}:E_{110}:E_{111} = 1.41:1:1.23$. In the present investigation, the values obtained for the electric strength in the various directions did not differ within the limits of error. It is assumed that the anisotropy in electric strength can be proved only if electrodes with a small diameter are used, since otherwise the discharge may take place in another direction with lower strength. Using electrodes with a small diameter one obtains $E_{100}:E_{110}:E_{111} = 1.43:1:1.21$. There is

Card 1/2

Anisotropy in the electric ...

S/181/62/004/007/032/037
B178/B104

1 figure.

ASSOCIATION: Tomskiy politekhnicheskii institut imeni S. M. Kirova
(Tomsk Polytechnic Institute imeni S. M. Kirov)

SUBMITTED: March 22, 1962

Card 2/2

GOLYNSKIY, Anatoliy Ivanovich, aspirant; VCROB'YEV, Grigoriy Abramovich,
kand.tekhn.nauk, starshiy nauchnyy sotrudnik; MESYATS, Genrادی
Andreyevich, kand.tekhn.nauk, starshiy nauchnyy sotrudnik

High-voltage spark discharger with high-speed commutation.
Izv. vys. ucheb. zav.; elektromekh. 5 no.5:560-562 '62.

(MIRA 15:5)

1. Tomskiy politekhnicheskiy institut.
(Electric switchgear) (Electric discharges)
(Electric testing)

S/120/62/000/001/021/061
E140/E463

21.6000

AUTHORS: Vorob'yev, A.A., Vorob'yev, G.A., Mesyats, G.A.,
Golynskiy, A.I.

TITLE: High-voltage nanosecond pulse generator

PERIODICAL: Pribery i tekhnika eksperimenta, ⁷no.1, 1962, 96-98

TEXT: A generator based on two spark gaps is described,
for obtaining isolated 15 kV pulses with rise-times less than 1 ns
and durations between 10 and 40 ns. A pulse-shaping cable,
coaxial multielectrode switching gap, transmission line and coaxial
pulse sharpening gap comprise the generator. The generator is
triggered by a pushbutton. There are 4 figures. ✓ B

ASSOCIATION: Nauchno-issledovatel'skiy-institut yadernoy fiziki,
elektroniki i avtomatiki Tomskogo politekhnicheskogo
instituta (Scientific Research Institute of Nuclear
Physics, Electronics and Automation of the Tomsk
Polytechnical Institute)

SUBMITTED: May 27, 1961
Card 1/1

VOROB'YEV, A.A.; VOROB'YEV, G.A.

Problem concerning the electric breakdown of solid dielectrics.
Radiotekh. i elektron. 7 no.9:1523-1528 S '62. (MIRA 15:9)
(Dielectrics)

AID Nr. 990-12

14 June

16008460, G.A.

1. The first stage of the operation is described in the following manner:

2. The second stage of the operation is described in the following manner:

3. The third stage of the operation is described in the following manner:

4. The fourth stage of the operation is described in the following manner:

5. The fifth stage of the operation is described in the following manner:

Card 1/2

ADP NF 590-12 JN JUNE

HIGH-VOLTAGE PULSE GENERATOR (Cont'd)

S/120/63/000/002/023/041

was measured at 10^{-9} sec. With a pulse-forming capacitor of 10 μ f
the pulse width was 100 nsec. The pulse amplitude was 100 kV.
The pulse width was measured in width and not in
length. With the studies of pulse shape behavior with change in pressure and
length.

Card 2/2

VOROB'YEV, A.A.; VOROB'YEV, G.A.; KOSTRYGIN, V.A.

Estimation of the impact ionization coefficient in crystals. Izv.vys.
ucheb.zav.;fiz.no.2:174-175 '63.

(MIRA 16:5)

1. Tomskiy politekhnicheskii institut imeni Kirova.
(Ionization) (Breakdown, Electric)

ACCESSION NR: AP4006824

S/0120/63/000/006/0093/0094

AUTHOR: Vorob'yev, G. A.; Mesyats, G. A.; Rudenko, N. S.; Smirnov, V. A.

TITLE: Pulse generator of steep 150 kv pulses

SOURCE: Pribury* i tekhnika eksperimenta, no. 6, 1963, 93-94

TOPIC TAGS: pulse generator, hv pulse generator, steep pulse generator, pulse structure

ABSTRACT: An improvement in the Arkad'yev-Marks. surge generator circuit is described which permits shortening the impulse front from the ordinary 10^{-7} to 10^{-9} sec. Parasitic inductance of the surge generator is compensated by a non-inductive (type KOB-3) capacitor in each stage and by a special 150-pf noninductive capacitor connected across the test piece. The latter capacitor is briefly described and its design sketch is given. The conventional output sphere gap is replaced by a needle gap to suppress oscillations; the most stable switching is

Card 1/2

ACCESSION NR: AP4006824

found to occur when the discharge takes place over a surface of a solid dielectric. Three oscillograms illustrate the operation of the surge generator. Orig. art. has: 4 figures and 2 formulas.

ASSOCIATION: Tomskiy politekhnicheskii institut (Tomsk Polytechnic Institute)

SUBMITTED: 11Jan63

DATE ACQ: 24Jan64

ENCL: 00

SUB CODE: SD

NO REF SOV: 004

OTHER: 000

Card 2/2

USOV, Yu.P.; VOROB'YEV, G.A.

Suitable materials for windows in chambers for studying discharges through gases under pressure. Prib. i tekhn. eksp. 8 no.2:177-178 Mr-Apr '63.
(MIRA 16:4)

1. Nauchno-issledovatel'skiy institut yadernykh issledovaniy elektroniki i avtomatiki pri TPI.
(Electric discharges through gases) (Physical instruments)

ACC NR: AR6010502

SOURCE CODE: UR/0196/65/000/010/B006/B006

AUTHOR: Vorob'yev, A. A.; Vorob'yev, G. A.

TITLE: Some quantitative relationships of electrical breakdown of solid dielectrics

SOURCE: Ref. zh. Elektrotehnika i energetika, Abs. 10B39

REF SOURCE: Sb. Probay dielektrikov i poluprovodnikov. M.-L., Energiya, 1964, 10-21

TOPIC TAGS: dielectric breakdown, solid dielectric, impact ionization, dielectric strength

ABSTRACT: The following problems are considered: 1) the dependence of electric strength upon the thickness of the dielectric; 2) discharge propagation; 3) the dependence of the discharge time upon the thickness of the dielectric; 4) the diagram of the development of the discharge; 5) estimate of the coefficient of impact ionization; 6) two breakdown mechanisms; and 7) the breakdown stages. It is demonstrated that many analogies exist in the breakdown mechanism of solid dielectrics and the air. It should be considered proven that electrical breakdown of solid dielectrics is caused by electron impact ionization. It is indicated that for a better understanding of the processes occurring in electrical breakdown of solid dielectrics, it is necessary to gain a deeper understanding of the effect of the solid structure on the development of the electron avalanche, and the processes of diffusion and recombination. From this stand-

Card 1/2

UDC: 621.315.01.015.51(048)

L 04040-67

ACC NR: AR6010502

point, ascertaining the role of point defects and dislocations in the process of breakdown is of interest. It is also important, by means of direct measurements, to estimate the autoelectron-ic emission from the cathode, multiplication of electrons, velocities of the electron avalanche, and the streamer. [Translation of abstract] 13 illustrations, 3 tables, and bibliography of 54 titles. [Tomsk Poltechnical Institute im. S. M. Kirov (Tomskiy politekhnich. in-t)]
A. Petrashko

SUB CODE: 20

kh

Card 2/2

ACC NR: AP7007677

SOURCE CODE: UR/0386/66/003/002/0061/0063

AUTHOR: Vorob'yev, G. A.; Rudenko, N. S.

ORG: Polytechnical Institute im. S. M. Kirov, Tomsk (Politekhnikheskiy institut)

TITLE: Isotropic spark chamber

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki. Pis'ma v redaktsiyu, v. 3, No. 2, 1966, 61-63

TOPIC TAGS: spark chamber, charged particle, particle track, particle trajectory

ABSTRACT: The authors propose a spark chamber with three mutually perpendicular pairs of electrode plates in order to register in spark form the track of a particle moving in an arbitrary direction in space. A pulsed voltage of fixed duration and amplitude is applied to each pair of plates and a time interval is established between the instant of termination of the voltage pulse on the first pair of plates and the instant of application of the pulse to the second (with a similar time lag between the second and third pulses). In this way the electric field in the chamber reverses its direction space three times. To explain the operating principle of the chamber, three possible directions of the particle track are distinguished: 1) The particle track is inclined $0^\circ - 45^\circ$ to the direction of the electric field of the first plate pair. In this angle range, a pulse applied to the first pair of plates produces a spark that follows the inclined particle trajectory. The second and third pulses

Card 1/3

UDC: none

ACC NR: AP7007677

will exert no great influence on the already-produced high-density plasma, because of their short duration and the short time delay relative to the first pulse, so that the particle density in the plasma will not drop noticeably during the time of action of these pulses; 2) The particle track is inclined $0^\circ - 45^\circ$ to the electric field of the second plate pair. Application of the first pulse produces a column of avalanches (as in a streamer chamber) along the particle track. At the same time, a voltage pulse of this duration and amplitude is perfectly adequate for production of a spark if the particle track coincides with the direction of the electric field. When the second pulse is applied, a spark is produced along the particle track. In this case the conditions for spark production are better than in the first, since the interaction between neighboring avalanches is made much stronger by the larger number of charged particles in each avalanche than in the first case; 3) The particle track is inclined $0^\circ - 45^\circ$ to the electric field of the third set of plates. The first voltage pulse acts as in the second case. The second pulse develops the already-produced avalanches in a direction perpendicular to the first. The third voltage pulse produces the spark along the particle track. The experimental setup is shown in Fig. 1. A voltage pulse with rise time 2×10^{-9} sec, obtained with the aid of a special generator, is applied to each pair of electrode pairs by a separate cable. The cable lengths were chosen such that the delay between pulses was 50 nsec. The duration of each pulse was regulated independently by means of three discharge gaps (nitrogen, 10 atm pressure) placed at the ends of the lines ahead of the electrode plates. The electrode plates were insulated from each other by immersion in transformer oil in a Plexiglas chamber with double walls. An external air-filled chamber contained

Card 2/3

ACC NR: AP7007677

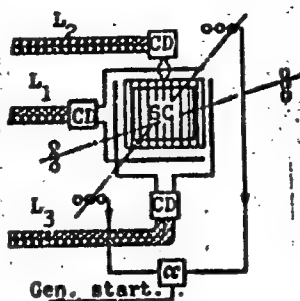


Fig. 1. High-voltage supply to spark chamber. CD - cutoff discharge gap, CC - coincidence circuit, SC - spark chamber.

a glass chamber filled with neon at 760 mm Hg. The dimension of the glass chamber was 10 x 10 x 10 cm. The field intensity was ~ 15 kV/cm. The authors thank Corresponding member A. I. Alikhanyan and Professor A. A. Vorob'yev for interest and collaboration on this work and Engineer M. I. Koslov for assistance in carrying out the experiment. Orig. art. has: 4 figures.

SUB CODE: 20 / SUBM DATE: 15Oct65 / ORIG REF: 002 / OTH REF: 001

Card 3/3

VOROB'YEV, G.A.; NANIY, V.P.; GEGESHIDZE, G.A.; LIPETS, A.U.;
LOKSHIN, V.A.; ANTONOV, A.Ya.; GEL'TMAN, A.E.; IL'INA, L.V.;
RUBIN, V.B.

Inventions. Energ. i elektrotekh. prom. no. 4:50 O-D '65.
(MIRA 19:1)

VOROB'YEV, G.A.; RUDENKO, N.S.

Nanosecond 500 kv voltage pulse generator. Prib. i tekhn. eksp. 10
no.1:109-111 Ja-F '65. (MIRA 18:7)

1. Tomskiy politekhnicheskii institut.

VOROB'YEV, G.A.; GOLYNSKIY, A.I.; MESYATS, G.A.

Effect of pressure on the formation of conductivity in a spark
in various gases. Zhur.tekh.fiz. 34 no.12:2153-2155 D '64.
(MIRA 18:2)

VOROB'YEV, G.A.; LISETSKAYA, M.N.

Development of a discharge in rock salt in a homogeneous field.
Fiz. tver. tela 6 no.12:3493-3499 D '64 (MIRA 18:2)

1. Tomskiy politekhnicheskoy institut imeni Kirova.

VOROB'IEV, G.A.; LISETSKAYA, M.N.

Apparatus for studying the development of an electric discharge.
Prib. i tekhn. eksp. 9 no.3:175-177 My-Je '64 (MIRA 18:1)

1. Tamskiy politekhnicheskiy institut.

VOROB'YEV, G.A.; GOLYNSKIY, A.I.; RUDENKO, N.S.

Performance of a small-size pulse generator for power
supply to a neutron accelerating tube. Izv. TPI 122:
140-141 '62. (MIRA 17:9)

VOROB'YEV, A.A.; VOROB'YEV, G.A.; KOCHENBAYEV, T.K.; KOSTRYGIN, V.A.; NEKRASOVA,
L.G.

Effect of electrodes and the structure of a dielectric crystal
on its electric strength. Fiz. tver. tela 6 no.5:1560-1562
My '64. (MIRA 17:9)

1. Tomskiy politekhnicheskii institut imeni Kirova.

"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001860820008-8

APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001860820008-8"

3/3

VOROB'YEV, A. A., doktor fiziko-matematicheskikh nauk, prof. ; VOROB'YEV,
G. A., kand. tekhn. nauk; KOSTRYGIN, V. A., kand. tekhn. nauk

Dependence of the electrical strength of solid dielectrics on
the thickness of the breakdown layer. Izv. vys. ucheb. zav.;
energ. 7 no.5:108-110 My '64. (MIRA 17:7)

1. Tomskiy ordena Trudovogo Krasnogo Znameni politekhnicheskiiy
institut imeni Kirova. Predstavlena kafedroy tekhniki vysokikh
napryazheniy.

VOROB'YEV, G. A., kand tekhn nauk

Evaluation of the conditions of the distribution of a discharge dielectric in a wedge-plane field with positive polarity of the wedge. Izv vys ucheb zav; energ 7 no. 1:98-101 Ja '64.
(MIRA 17:5)

1. Tomskiy ordena Trudovogo Krasnogo Znameni politekhnicheskii institut imeni S. M. Kirova.

VOROB'YEV, G.A.; KOCHERBAYEV, T.K.

Effect of the cathode material on the electrical strength of a
solid dielectric. Radiotekh. i elektron. 9 no.3:557-559 Mr
'64. (MIRA 17:4)

VOROB'YEV, G.A.

Operation of the Arkad'ev - Marks circuit with a high off-duty factor. Atom. energ. 16 no.2:139-141 F '64.
(MIRA 17:3)

ACCESSION NR: AP4015563

S/0089/64/016/002/0139/0141

AUTHOR: Vorob'yev, G. A.

TITLE: Operation of the Arkad'yev-Marks circuit with a high duty factor

SOURCE: Atomnaya energiya, v. 16, no. 2, 1964, 139-141

TOPIC TAGS: pulse voltage generator, Arkad'yev-Marks circuit, circuit duty factor, duty factor, pulse generator

ABSTRACT: High voltage pulses, which proceed with a certain duty factor determined by the number of pulses originating per second, are very often necessary for obtaining accelerated beams of charged particles. Pulses with an amplitude of hundreds and thousands of kilovolts are generally obtained from a pulse generator assembled on the Arkad'yev-Marks circuit. In comparison with pulse transformers, these Arkad'yev-type generators emit pulses with a steeper front, which is of great importance in many cases. The voltage difference at the pulse's end ΔU , should be small in comparison with the pulse amplitude in order to obtain monochromatic beams. This difference can be represented by the value: $k = \frac{\Delta U}{U} 100\%$. In the case of capacitance discharge through a load, the value of this capacitance can be

Card 1/2

ACCESSION NR: AP4015563

readily determined by

$$C = \frac{100t_1}{R_H} = \frac{100t_1 \cdot i}{U}$$

where t_1 - pulse duration; i - current; and R_H - load resistance. When employing the Arkad'yev-Marks circuit the capacitance is discharged not only through the load but also through the charging elements placed between the generator stages. A pulse voltage generator with charging through a resistance and one with charging through an inductance are evaluated. Orig. art. has: 2 figures and 11 equations.

ASSOCIATION: none

SUBMITTED: 21Jun63

DATE ACQ: 12Mar64

ENCL: 00

SUB CODE: EE, PH

NO REF SOV: 000

OTHER: 000

Card 2/2

VOROB'YEV, G.A.

Intercollegiate Conference on the breakdown of dielectrics and
semiconductors. Izv.vys.ucheb.zav.; fiz. no.3:191-192 '63.(MIRA 16:12)

1. Tomskiy politekhnicheskii institut imeni S.M.Kirova.

VOROB'YEV, G.A.; GOLYANSKIY, A.I.; KORSHUNOV, G.S.

Oscillographic recording of the front of a high-voltage nano-
second pulse. Prib. i tekhn. eksp. 8 no.5:216-217 S-O '63.
(MIRA 16:12)

1. Tomskiy politekhnicheskii institut.

VOROB'YEV, Grigoriy Abramovich, doktor fiz.-matem. nauk prof.;
MESYATS, Gennadiy Andreyevich. Prinimali uchastiye:
USOV, Yu.P.; KREMNEV, V.V.; MELESHKO, V.K., red.;
MAZEL', Ye.I., tekhn. red.

[Technique for generating high-voltage pulses] Tekhnika
formirovaniia vysokovol'tnykh impul'sov. Moskva, Gos-
atomizdat, 1963. 166 p. (MIRA 17:1)
(Pulse techniques (Electronics))

LIPKIN, S.A.; VOROB'YEV, G.G.

Keeping a record of documentary materials with the aid of microcards
in pockets on punched cards. NTI no.11:26-27 '64.

(MIRA 18:1)

L 19667-63 EWT(1)/EWP(q)/EWT(m)/EWP(B)/BDS/ES(s)-2 AFFTC/ASD/ESD-3/
IJP(C)/SSD Pt-4 GG/JD
ACCESSION NR: AR3006987 S/0058/63/000/008/E049/E049

SOURCE: RZh. Fizika, Ahs. 8E347

AUTHOR: Vorob'yev, A. A.; Vorob'yev, G. A.

TITLE: Ionization processes in the electric breakdown of alkali
halide salt crystals

CITED SOURCE: Sb. Fiz. shchelochnogaloidn. kristallov. Riga, 1962,
361-364

TOPIC TAGS: electric breakdown, alkali halide crystal, ionization,
Townsend mechanism, streamer mechanism

TRANSLATION: Experimental results and the main laws of the electric
breakdown of NaCl, KCl, KBr, and KI, obtained at the laboratories
of the Tomskiy politekhnicheskii institut (Tomsk Polytechnic Insti-
tute), are briefly reported. Discharges from the positive sharp

Card 1/3

L 19667-63

ACCESSION NR: AR3006987

point extend in the directions [111] and [110], and from a negative point along [100]. The average rate of discharge in the case when the point has a positive polarity is larger than in the case of a negative point. Measurement of the currents flowing during formation of the discharge shows that the formation of incomplete breakdown channels in dielectrics is due to the melting of the dielectric by the current of the produced discharge. It is proposed that if the dielectric has a small thickness (d) (from several to several dozen microns) the discharge has a multiple-avalanche character. When d decreases from tenths of a millimeter to several microns, one observes at a certain value d_{cr} (on the order of 10^{-3} cm) a change in the discharge time t_{disch} thus indicating a change in the discharge mechanism in the solid dielectrics from the avalanche-streamer type $d > d_{cr}$ to the multi-avalanche-streamer type $d < d_{cr}$ in the same manner as in gases on going over from the Townsend

Card 2/3

L 19667-63

ACCESSION NR: AR3006987

~~mechanism of breakdown to the streamer mechanism. The data obtained~~
~~make it possible to assume that the crystal breakdown begins with~~
~~impact ionization. N. Torbin.~~

DATE ACQ: 06Sep63

SUB CODE: PH

ENCL: 00

Card 3/3

VOROB'YEV, G.G.; SHKROV, G. [Skrov, G.]

Recent data characterizing the fall of tektites (vltavines) in
Czechoslovakia. Dokl. AN SSSR 161 no.1:63-65 Mr '65. (MIRA 18:3)

1. Komitet po meteoritam AN SSSR i Cheske-Budeyovitskaya astro-
nomicheskaya observatoriya, Chekhoslovatskaya Sotsialisticheskaya
Respublika. Submitted October 9, 1964.

~~MOROB YEV, G.G.~~

USER/Chemistry - Organic salts

Card

Authors

Title Thermanite, an ethereal salt

Periodical American Chemical Society

Instructions

Sub-titles

VOBOB'YEV, G.G.

Behavior of minerals in an electric arc flame. Zap.Vses.Min.
ob-va 84 no.4:466-468 '55. (MIRA 9:2)
(Mineralogy, Determinative)

Vorob'yev, G.G.

24(7)

THIS IS BOOK EXPLANATION

Nov. Universitet

Materialy I Vsesoyuznogo sovetskoye po spektroskopii, 1956. S. II: Atomnaya spektroskopiya (Materials of the 10th All-Union Conference on Spectroscopy, 1956. Vol. 2: Atomic Spectroscopy) / Sov. Ind-vo L'vovskogo univ. 1958. 568 p. (Series: Its. Vuzhskiy sbornik, v. 79-80) 3,000 copies printed.

Additional Sponsoring Agency: Akademii nauk SSSR, Komissiya po spektroskopii.

Editorial Board: G.S. Landsberg, Academician, (Resp. Ed.); B.S. Reporent, Doctor of Physical and Mathematical Sciences; I.L. Fabelinskii, Doctor of Physical and Mathematical Sciences; V.A. Fabelinskii, Doctor of Physical and Mathematical Sciences; V.G. Koritskiy, Candidate of Physical and Mathematical Sciences; L.K. Klimovskaya, Candidate of Physical and Mathematical Sciences; V.S. Milyanchuk (Moscow), Doctor of Physical and Mathematical Sciences; G.S. Landsberg, Doctor of Physical and Mathematical Sciences; Ed.: G.L. Gasser, Tech. Ed.: T.V. Saranyuk.

Function: This book is intended for scientists and researchers in the field of spectroscopy, as well as for technical personnel using spectrum analysis in various industries.

COVERAGE: This volume contains 177 scientific and technical studies of atomic spectroscopy presented at the 10th All-Union Conference on Spectroscopy in 1956. The studies were carried out by members of scientific and technical institutes and include extensive bibliographies of Soviet and other sources. The studies cover many phases of spectroscopy: spectra of the earth, electromagnetic radiation, physicochemical methods of controlling uranium production, physics and technology of gas discharges, optics and spectroscopy, abnormal dispersion of metal vapors, spectroscopy and the combustion theory, spectrum analysis of area and minerals, photographic methods, quantitative determination of the analysis of metals and alloys, spectral determination of the hydrogen content of metals, spark spectrographic analysis, statistical study of variation in the parameters of calibration curves, determination of traces of metals, spectrum analysis in metallurgy, thermochemistry in metallurgy, and principles and practice of spectrochemical analysis.

Card 2/31

Materials of the 10th All-Union Conference (Cont.)	507/510
Vorob'yev, G.G. Study of Minerals by Means of Spectrum Analysis	378
Sverdlov, Z.M., and L.G. Fedorova. New Method for the Spectrum Analysis of Minerals	381
Analysis of a Metal in an Electric Arc Furnace Without Sampling	387
Ivankov, L.M., I.I. Konstantinov, V.V. Subbotalova, and A.I. Spurygin. Industrial Tests of an Experimental Photoelectric Unit for Rapid Determination of Phosphorus in Steel	388
Tegulov, L.I. Methods of Calculating Calibration Curves for the Determination of High Concentrations of Components in Ferroalloys	392
Voronov, B.D. Spectral Studies of the Metals and Physics Laboratory of the Metallurgical Branch of the Giproftemash Institute	395

Card 22/31

VOROB'YEV, G.G.

Gallium in minerals and rocks of Mongolia [with summary in English].
Geokhimiia no.8:713-722 '57. (MIRA 11:2)
(Mongolia--Gallium)

VOROB'YEV, G.G.; NAMNANDORZH, O.

Mongolian meteorites. Metsoritika no.16:134-136 '58.

(MIRA 11:8)

(Mongolia--Meteorites)

VORUB'YE V. G. G.

TABLE I BOOK REFERENCES

1. Handbook of Meteorology, 1957, 110 (Comprehensive Collection of Articles, No. 11) Moscow, 1959. 157 p. Printed 110,000 copies.

2. Handbook of Meteorology, 1957, 110 (Comprehensive Collection of Articles, No. 11) Moscow, 1959. 157 p. Printed 110,000 copies.

3. Handbook of Meteorology, 1957, 110 (Comprehensive Collection of Articles, No. 11) Moscow, 1959. 157 p. Printed 110,000 copies.

4. Handbook of Meteorology, 1957, 110 (Comprehensive Collection of Articles, No. 11) Moscow, 1959. 157 p. Printed 110,000 copies.

5. Handbook of Meteorology, 1957, 110 (Comprehensive Collection of Articles, No. 11) Moscow, 1959. 157 p. Printed 110,000 copies.

6. Handbook of Meteorology, 1957, 110 (Comprehensive Collection of Articles, No. 11) Moscow, 1959. 157 p. Printed 110,000 copies.

7. Handbook of Meteorology, 1957, 110 (Comprehensive Collection of Articles, No. 11) Moscow, 1959. 157 p. Printed 110,000 copies.

8. Handbook of Meteorology, 1957, 110 (Comprehensive Collection of Articles, No. 11) Moscow, 1959. 157 p. Printed 110,000 copies.

9. Handbook of Meteorology, 1957, 110 (Comprehensive Collection of Articles, No. 11) Moscow, 1959. 157 p. Printed 110,000 copies.

10. Handbook of Meteorology, 1957, 110 (Comprehensive Collection of Articles, No. 11) Moscow, 1959. 157 p. Printed 110,000 copies.

11. Handbook of Meteorology, 1957, 110 (Comprehensive Collection of Articles, No. 11) Moscow, 1959. 157 p. Printed 110,000 copies.

12. Handbook of Meteorology, 1957, 110 (Comprehensive Collection of Articles, No. 11) Moscow, 1959. 157 p. Printed 110,000 copies.

13. Handbook of Meteorology, 1957, 110 (Comprehensive Collection of Articles, No. 11) Moscow, 1959. 157 p. Printed 110,000 copies.

14. Handbook of Meteorology, 1957, 110 (Comprehensive Collection of Articles, No. 11) Moscow, 1959. 157 p. Printed 110,000 copies.

15. Handbook of Meteorology, 1957, 110 (Comprehensive Collection of Articles, No. 11) Moscow, 1959. 157 p. Printed 110,000 copies.

VOROB'YEV, G.G.

Investigating the composition of tektites. Part 1.
Meteoritika no.17:64-72 '59. (MIRA 13:6)
(Meteorites)

VOROB'YEV, G.G.; ROTKO, H.A.

Mongolian riehekite. Zap.Vses.min.ob-va 88 no.2:198-199
'59. (MIRA 12:8)

(Khangay Mountains--Riehekite)

S07/20-128-1-14/58

3 (1)

AUTHOR:

Vorob'yev, G. G.

TITLE:

New Data on Tectites

PERIODICAL:

Doklady Akademii nauk SSSR, 1959, Vol 128, Nr 1, pp 61 - 62

ABSTRACT:

In investigating a large collection of tectites in the Komitet po meteoritam AN SSSR (Committee for Meteorites of the AS USSR) the author detected magnetite globules on some rinalite specimens (tectites from Finland), which were concentrated on the surfaces. Such formations have not yet been described in publications. The rinalites of this collection are black, round, slightly compressed, and have a characteristic shell-like crack. The surface structure (sculpture) is termed "labyrinth". In the presence of the above globules also a superimposed marking of micro-slag-shaped structure appears which consists of numerous globular caverns 1-2 mm thick. Diameters of tenths of a millimeter are less frequent. These caverns are no more than 3 or 5 mm far from the surface and include hollow magnetite globules of equal or somewhat smaller size. The half-open caverns are hemispherical. However, they are levelled by the natural surface of the tectite. New formations of fused quartz were found on this plane or slightly curved surface. Further details on the

Card 1/3

New Data on Tectites

SOV/20-128-1-14/58

structure are briefly discussed. When the globules are slightly magnified under a microscope, they look very much like old rusty cannon-balls. Some of them are strongly oxidized. Considerably smaller fused globules (Size: from tenths of a micron to 10 μ) were found by the author in tectites from Indochina on an electron microscope. These are the two most probable assumptions of the formation of tectites: formation in connection with meteorite craters and merely cosmic origin. In this way it is possible to explain the origin of the above globules by a specific collision of the tectite substance during fusion. Similar phenomena have yet not been observed under terrestrial conditions. In connection herewith, also a large number of magnetite globules with nickel found in large meteorites are very interesting. Investigations carried out in the last years indicate that magnetite globules (also with nickel) 3-6 μ thick (more rarely up to 25 μ and more) fall upon the Earth. They probably originate from meteorites, i.e. they are emitted from the meteorite during the flight. Equal amounts are found in industrial areas and uninhabited regions alike. There are 3 figures and 4 references, 1 of which is Soviet.

Card 2/3

New Data on Tectites

SOV/20-128-1-14/58

ASSOCIATION: Komitet po meteoritam Akademii nauk SSSR (Committee for
Meteorites of the AS USSR)

PRESENTED: May 5, 1959, by V. G. Fesenkov, Academician

Card 3/3

VOROB'YEV, G. G. ~~and~~ Geol-Mineral Sci -- (USSR) "Investigation of the composition of tectites in connection with the problem of their origin," Moscow, 1960, 18 pp, 200 cop (Inst. of Geochemistry and Analytical Chemistry in V. I. Vernadskiy, AS USSR) (KL, 43-60, 117)

VOROB'YEV, G. G.	
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WALKER & WALKER

NOV/4291
NOV/57-S-38

Administrative and Support. Evaluate performance

Reverend; honorable clergy. pp. 19 (Meteorites: Collection of Articles, No. 19)
 Moscow, AZ 25.57, 1950. 1,200 copies printed.

Ed.: Y. G. Puzanov, Academician; Deputy Mems. Ed.: Ye. M. Krinov; Ed. of Publishing House: I. Ye. Shulin; Tech. Ed.: A. P. Ozerov.

FOOTNOTES: This publication is intended for cardiophysiologists, seismologists, and geologists, particularly those interested in the study of microseisms.

CONCLUSIONS: This collection of 35 articles on problems in asymptotics includes the translations of the Elitzin Institute Conference talks took place in Moscow, June 3-5, 1990. An introductory article reviews recent progress in the field, particularly in the matter of determining the age of asymptotics. Subsequent articles discuss the full, physical and chemical properties, and age of asymptotics. The theory presented by authors to artificial neural activities is discussed. E. G. Pleshchinskii describes the theory and obtains explanations for

determining the distribution of income is the "company" having "major" influence.
Therefore, necessary individual articles.

ALLEN, A. Diatoms Craters in the Potomac Sea

POPEV, Y. (Sofia, Bulgaria). The Origin of Asterisks and Retortils

Yord'ev, G.G. Study of the Composition of Soils. 2. Molasses 35

Polymers, Jerry (Warsaw, Poland). The Specific Weight of Networks

D'Agostino, R. J. and V. T. Eschizone. Results of the Chemical Analysis of the

BY OF Sciences DATA

Alaburquerque, R.S. New Data on the Physical Properties of Some Meteorites

Terminal A.A.: 2.8. November, 2.9. 1911. and 2.3. March 1910. Internal

Spectral Analysis (Synopsis of the Report)

Abstracts, J.R.P. Preliminary Results of the Long-term Ecotoxicological

ACCORDING TO US, I WOULD NOT RECOMMEND HIM FOR A JOB

CONTRACTS IN VIOLATION OF THE ANTI-TRUST ACT

STANLEY, I. D., R. L. JOHNSON, and M. M. GIBBS. Determination of the

Age of Maturation by the Radio-Isotopic Method

Trigonolov, A. P., Acetaminofen, 1,1-bis(4-chlorophenyl)-2,2,2-trifluoroethane and 2,2,2-trifluoroethyl acetate in the analysis of drugs in the blood and urine

Gertling, H.F., and L.F. Levitt, Products of Cosmic Radiation in the

SECRET-ALL INFORMATION CONTAINED HEREIN IS UNCLASSIFIED

POWELL, JEFFREY (JAMES), JR. 1940-01-01 1940-01-01

Editor, F.I.C., and Hon. Chancellor, The President's Club in Ottawa
Canada

Trilling, L.H. **Yields of Networic Trees in the Area of the Kumbhak Bore**

Matteotti vs. Elmer

Orestes L. Kovalev, Ph.D. *National Repository on Meteorites in the Museum of Earth Sciences at Moscow State University*

Cart 4/5

VOROB'YEV, G.G.

Chemical composition of tektites and the problem of their origin.
Geokhimiia no.5:427-442 '60. (MIRA 13:8)

1. Institute of Scientific and Technical Information, Academy of
Sciences, U.S.S.R., Moscow.
(Tektite)

VOROB'YEV, G.G. (Moskva)

Riddle of tektites. Priroda no.6:75-77 Je '60.
(MIRA 13:6)
(Tektite)

VOROB'YEV, G.G.

Investigating the composition of tektites. Part 2. Meteoritika
no.18:35-40 '60. (MIRA 13:5)
(Moldavite)

VOROB'YEV, G.G.

The problem of tektites and silica glasses. Meteoritika no.19:26-62
'60. (MIRA 13:11)

(Tektite)

S/081/62/000/034/029/087
B149/B101

AUTHOR: Vorob'yev, G. G.

TITLE: A method of quantitative spectral analysis of tektites and the silicate phase of meteorites

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 4, 1962, 149, abstract 4D141 (Sb. "Meteoritika" no. 20, M., 1961, 185 - 192)

TEXT: A weighed sample of 0.03 g is mixed with 0.06 g of specially purified lithium fluoride and with 0.09 g of carbon powder. For the second dilution variant 0.06 g of the mixture are removed and a further 0.15 g each of lithium fluoride and carbon are added. The mixtures obtained are placed into the opening of a carbon electrode 6 mm deep, 1 mm diameter, with walls 0.5 mm thick, and are moistened with a drop of liquid cupferron. The spectra are excited for 4 min in an a.c. arc at 5 a with a working span of 2 mm. Two photoplates are placed in a cassette: one of 2.8 μ (GOST) units of sensitivity for the short-wave region of a medium quartz spectrograph, and the other of 0.7 units of sensitivity for the long-wave region. Synthetic standards are prepared from lithium fluoride and carbon. Calibration curves are plotted as $\log(S-S_0)$ versus $\log C$, where S is the

Card 1/2

A method of quantitative spectral ...

S/081/62/000/004/029/087
B149/B101

density of blackening of the line and S_0 is the density of blackening of the background. The average error in determining Be, Mg, Mn, P, Si, Ga, Al, Ca, V, Cu, Na, Ti, Zr, Ni, Co, Cr, Sr, Ba is 8.9 %. The results of spectral analyses carried out in different laboratories and the results of chemical and spectral analysis are compared. [Abstracter's note: Complete translation.]

Card 2/2

VOROB'YEV, G.G.; NAMNANDORZH, O.

Spectrochemical investigation of the Noyan Bogdo meteorite of
Mongolia. Meteoritika no.21:60-63 '61. (MIRA 14:11)
(Noyan Bogdo region--Meteorites)

STARIK, I.Ye.; VOROB'YEV, G.G.; SOBOTOVICH, E.V.; SHATS, M.M.;
GRASHCHENKO, S.M.

Origin and age of tektites. *Biul.kom.po opr.abs.vozr.geol.form.*
no.5:26-34 '62. (MIRA 15:11)
(Tektite) (Lead—Isotopes)

S/534/62/000/022/002/002
I033/I240

AUTHORS: Kadushin, A.A., and Verob'yev, G.G.

TITLE: A method of investigation of meteorites and tektites

PERIODICAL: Akademiya nauk SSSR. Komitet po meteoritam.
Meteoritika, no. 22. Moscow, 1962, 104-109

TEXT: The application of infrared absorption analysis in chemistry and mineralogy is reviewed. Because of its insensitivity to native metals infrared spectroscopy may be used only for stone meteorites. The spectrometer UR - 10 manufactured by Karl Zeiss of Jena, GDR was used for analysis. The powders to be investigated were mixed with KBr or NaCl and pressed into tablets.

Card 1/2

S/534/62/000/022/002/002
I033/I240

A method of investigation...

The particle size should not exceed $5/\mu$ to avoid distortion. The absorption spectra of the non-magnetite fractions of several meteorites, tektites, and other natural glasses, were investigated. There are 6 figures.

Card 2/2

VOROB'YEV, G.G., kand.geologo-mineralogicheskikh nauk

Expedition "after the mystery of tektites." Nauka i zhizn' 29
no.11:85 N '62.

(Tektite)

(MIRA 16:1)

LIPKIN, S.A.; VOROB'YEV, G.G.

Use of punched cards for information retrieval. Preparing
and reading punched cards. NTI no.3:40-46 '63.

(MIRA 16:11)

VOROB'YEV, G.G.; LIPKIN, S.A.

Use of aperture punched cards for information retrieval. Bibliographical
system for marginal-hole punched cards. NTI no.4:20-25 '63.
(MIRA 16:10)

AUTHOR: Vorob'ev, V. G.

Card 1

Seen formed under extraterrestrial temperature conditions. Ina

VOROB'YEV, G.G.

Investigating the composition of tektites. Part 4:
Spectrographic determination of beryllium in tektites
and some other glasses. Meteoritika no.24:51-55 '64.
(MIRA 17:5)

YAVNEL', A.A.; VOROB'YEV, G.G.

Bibliographic system for meteorites on manually operated
punch cards. Meteoritika no.24:180-193 '64. (MIRA 17:5)

VOROB'YEV, G.G.

Standard forms of the publication of scientific research
works. (Review). Zav.lab. 31 no.3:334-337 '65.

(MIRA 18:12)

VOROB'YEV, G.G., kand.geologo-mineral.nauk

Are tektites coming from the earth or from outer space? Zem.i vsel.
1 no.2:32-38 Mr-Apr '65. (MIRA 18:8)

Vorob'yev, G.G.

82019
S/056/60/058/02/20/061
B006/B011

24.6810

AUTHORS: Viryasov, N. M., Vovenko, A. S., Vorob'yev, G. G.,
Kirillov, A. D., Kim Khi In, Kulakov, B. A., Lyubimov, A. L.,
Matulenko, Yu. A., Savin, I. A., Smirnov, Ye. V., Strunov,
L. N., Chuvilo, I. V.

TITLE: Channel for ¹⁹Antiprotons With a Momentum of 2.8 Bev/c

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960,
Vol. 38, No. 2, pp. 445-448

TEXT: The authors of the present paper describe a channel built for the investigation of the interaction of antiprotons in a cloud chamber. Antiprotons were produced by 9-Bev protons in a target. Fig. 1 is a schematic representation of the channel described in the following. The antiprotons were identified from their velocity ($\beta = 0.95$) by means of three Cherenkov counters, each of which was provided with two photomultipliers of the type $\phi 3\gamma-33$ (FEU-33) whose efficiencies are specified in Table 1. The efficiencies attained with different coincidence combinations are given in Tables 2 and 3. Fig. 2 shows a block diagram of the electronic

Card 1/3

Channel for Antiprotons With a Momentum of 2.8 Bev/c

82019
8/056/60/038/02/20/061
B006/B011

system, and respective data are supplied in Table 4. The efficiency of the scheme described with respect to antiprotons is found to be 60-40%. Some tests are briefly described next. By the system discussed here, the authors determined the ratio of the number of \bar{p} with momenta of (2.8 ± 15) Bev/c to the number of all remaining particles (which were chiefly π^- -mesons) from the beryllium target (36 g/cm^2) under the angles 0 and 7° , and from a copper target ($\sim 180 \text{ g/cm}^2$) under 7° with respect to the primary proton beam ($8.1 - 8.9$ Bev). At an intensity of 10^9 of the inner beam, an average of 1 \bar{p} was recorded within four minutes. Results:

Angle	target	proton beam intensity	particle number in the channel	relative number of anti-protons in the beam
0°	Be	10^9	1000	$(1.03 \pm 0.13) \cdot 10^{-4}$
7°	Be	10^9	~ 700	$(1.37 \pm 0.18) \cdot 10^{-4}$
7°	Cu	10^9	~ 700	$(2.42 \pm 0.53) \cdot 10^{-4}$

The number of particles recorded in the channel agrees with data concern-

Card 2/3

Channel for Antiprotons With a Momentum of 2.8 Bev/c

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B006/B011

ing 9-Bev proton interactions in emulsions (Ref. 4). The increase in the relative number of antiprotons in the transition from 0 to 7° in the laboratory system agrees with predictions made on the strength of the statistical theory. By considering pion absorption ($\sigma_t \sim 30$ mb) and antiproton absorption ($\sigma_t \sim 60$ mb) as well as the attenuation of the beam of primary protons ($\sigma_{in} \sim 30$ mb), the ratio of the differential production cross sections of \bar{p} and π^- -mesons with 2.8 Bev/c under 0° in the laboratory system is found to be

$$\frac{d^2\sigma_{\bar{p}}}{d\Omega dp} / \frac{d^2\sigma_{\pi}}{d\Omega dp} \approx 1.5 \cdot 10^{-4}.$$

There are 2 figures, 5 tables, and 4 references: 3 Soviet, 1 Italian, and 1 International (CERN).

ASSOCIATION: Ob'yedinennyy institut yadernykh issledovaniy
(Joint Institute of Nuclear Research)

SUBMITTED: September 3, 1959

Card 3/3

S/120/60/000/01/046/051
E192/E382

AUTHOR: Vorob'yev, G.G.

TITLE: A Differential Pneumatic Spark Valve

PERIODICAL: Pribery i tekhnika eksperimenta, 1960, Nr 1,
pp 141 - 142 (USSR)

ABSTRACT: A cross-sectional diagram of the valve is shown in Figure 1. The device consists of: 1 - dural tube; 2 - a glass body; 3 - upper dural plate; 5 - a dural cover; 6 - a tightening ring made of rubber; 7 - a rubber tightening plate; 8, 9 - explosion chambers; 10 - a brass ring electrode; 11 - a tightening bushing; 12, 13 - intermediate electrodes made of tungsten; 14, 15 - triggering electrodes made of tungsten; 16, 17 - a terminal electrode; 18, 19 - electrode supports made of brass; 20, 21 - brass contacts; 22, 23 - terminal bushings, 24 - "directional" bushing; 25 - a shock absorber made of rubber; 26 - a brass gland; 27 - a lead. If the valve is open, the compressed air from the volume V_1 (Figure 1) pushes the tube 1 together

Card1/2 with the plates 3 and 4 in the direction of the volume



S/120/60/000/01/046/051

E192/E382

A Differential Pneumatic Spark Valve

V_2 . If a spark is produced in the chambers 8 and 9, the air in the chambers and under the plate 3 is instantly heated and its pressure is increased. The action of the pressure on the plate 3 is such that the valve becomes open. If the valve was supplied with an operating pressure of 6 atm a reliable operation was obtained by discharging a condenser having a capacitance of 4 μ F which was charged to the voltage of 5 kV. The main parts of the valve are illustrated in the photograph of Figure 2, while the electric supply circuit is shown in Figure 3. The author expresses his gratitude to I.V. Chuvilo for his constant interest and help in this work and to E.A. Kartintsev for participating in the design of the valve. There are 3 figures and 3 references, 1 of which is English and 2 are Soviet.

ASSOCIATION: Ob'yedinennyy institut yadernykh issledovaniy
(Joint Institute of Nuclear Research)



SUBMITTED: January 12, 1959
Card 2/2

VOROB'YEV, G.G.

Using punched cards in studying the problem of tektites.

Meteoritika no.22:157-161 '62.

(MIRA 15:8)

(Punched card systems) (Tektite)

VOROB'YEV, G.G.

Use of punched cards in industrial and research laboratories;
survey. Zav.lab. 28 no.3:316-323 '62. (MIRA 15:4)
(Punched card systems--Chemistry)

LIPKIN, S.A.; VOROB'YEV, G.G.

Photographic methods used for the accumulation of laboratory data. Zav.lab. 28 no.10:1221-1224 '62. (MIRA 15:10)

1. Vsesoyuznyy inatitut nauchnoy i tekhnicheskoy informatsii.
(Punched ~~card~~ systems—Chemistry) (Microphotography)

VOROB'YEV, G.G.

Identification of minerals by spectrum analysis. Viz.sbor.
no.4:378-381 '58. (MIRA 12:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut naftyanoy
promyshlennosti.

(Mineralogy, Determinative) (Spectrum analysis)

ZIMINA, K.I.; VOROB'YEV, G.G.; ORLOVA, M.I.

Spectrum analysis of the ash of spent motor oils, scale, and deposits. Khim.i tekhn.topl.i masel 5 no.5:50-56
My '60. (MIRA 13:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut po pererabotke
nefti i gazov i polucheniyu iskusstvennogo zhidkogo topliva.
(Lubrication and lubricants--Analysis)

VOROB'YEV, G.G.

Use of punched cards in the decoding of emission spectra. Zav.
lab. 27 no.10:1264-1268 '61. (MIRA 14:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut po pererabotke
nefti i gaza.

(Spectrum analysis)

NESTERENKO, Yu.A. (Moskva, Taganskaya ul., d.24, kv.46); PANIN, Yu.P.;
VOROB'YEV, G.I.

Electrostimulation of the heart; experimental data. Grad.
khir. 6 no.1;28-31 Ja-F '64. (MIRA 18:11)

1. Gosptal'naya khirurgicheskaya klinika lechebnogo fakul'teta
(zav. - prof. V.S. Mayat) II Moskovskogo meditsinskogo insti-
tuta imeni Pirogova. Submitted December 7, 1962.

VOROB'YEV, Georgiy Ivanovich; TIKHONOVA, Ye.M., red.; GUREVICH, M.M.,
tekhn. red.

[Kuban's new frontiers] Kuban' vykhodit na novye rubezhi. Moskva,
Izd-vo sel'khoz.lit-ry, zhurnalov i plakatov, 1961. 101 p.

(MIRA 14:11)

(Kuban—Agriculture—Economic aspects)

VOROB'YEV, Georgiy Ivanovich

[Seven-year plan for Udmurtia] Semiletka Udmurtii. Izhevsk,
Udmurtskoe knizhnoe izd-vo, 1959. 100 p. (MIRA 13:2)
(Udmurt A.S.S.R.--Economic conditions)

VOROB'YEV, Georgiy Ivanovich

[Work organization and wages in vegetable gardening] Organizatsiia i
oplata truda v ovoshchevodstve. Leningrad, Lenizdat, 1957. 175 p.
(MIRA 12:4)

(Wages)

(Vegetable gardening)

ORLOV, S.I.; KOIMOGOROV, V.L.; ANTIPIN, S.V.; ZAVAROV, S.I.; SOLOV'YEV, B.P.;
VOROB'YEV, G.M.; KIRCHUNOV, A.I.

Introduction of sectional drawplates for the manufacture of low-
carbon wire-steel. Metallurg 10 no.10:28-29 O '65.

(MIRA 18:10)

1. Ural'skiy nauchno-issledovatel'skiy institut chernykh metallov
i Revdinskiy metizno-metallurgicheskii zavod.

VOROB'YEV, G.M.; POPOVA, V.I.

Use of the method of stereometric metallography in interpreting the
pole figures of the compression of iron. Izv.vys. ucheb. zav.; fiz.
8 no.3:42-47 '65. (MIRA 18:9)

1. Dnepropetrovskiy gosudarstvennyy universitet imeni 300-letiya
vostochnoy Ukrainy i Rossiiy.

TARARIN, S.V.; VOL'BERG, A.A.; AFONIN, V.T.; VOROB'YEV, G.M.; TITOV, M.I.

Influence of the operation of changing the contact pins to
automatic control of electrolytic cells with a side supply
of current. TSvet. met. 38 no.11:80-84 N '65.

(MIRA 18:11)

VOROB'YEV, G.M.; GRECHNYI, Ya.V.; KOTOVA, L.I.; SHAYREV, I.P.

Comparison of various methods of measuring the textural
perfection of cold-rolled transformer steel. Zav. lab.
31 no.8:983-986 '65.

(MIRA 18:9)

1. Dnepropetrovskiy metallurgicheskii institut.

VOIROB'YEV, G.M.; GOL'SHTEIN, R.M.; MAURITS, J.I.

Effect of impurities on the basic mechanical properties of alumin.
Tsvet.met. 38 no.3:83-86 Mr '65. (MIRA 18:6)

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TITLE: Notch-toughness Behavior of Aluminum Alloys of the Solid-solution Type (Udarnaya vyazkost' alyuminiyevykh splavov tipa tverdykh rastvorov),

PERIODICAL: Tr. Vses. n. -i. alyumin. -magn. in-ta, 1957, Nr 40, pp 294-301

ABSTRACT: It is shown that 1) binary single-phase Al-Mg alloys have an inflexion point on the notch-toughness vs. concentration curve, 2) hardening of the alloys by means of quenching and aging does not change that relationship, and 3) natural hardening of an Al-Cu alloy ensure a more elevated notch toughness.

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Methods for determining the value of crystal lattice and
mosaic block distortions based on Fourier coefficients. Zav.
lab.27 no.6:686-689 '61. (MIRA 14:6)

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(Crystal lattices)